



Missouri Department of Transportation
Patrick K. McKenna, Director

105 West Capitol Avenue
P.O. Box 270
Jefferson City, Missouri 65102

1.888.ASK MODOT (275.6636)

July 25, 2016

Mr. Michael Abbott
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, Missouri 65102

Dear Mr. Abbott:

Subject: Design – Environmental Section
Small MS4 General Permit MO-R040063
Storm Water Annual Report (July 2015 – July 2016)

Enclosed is MoDOT's MS4 storm water annual report for general permit MO-R040063.

If you have any questions about the enclosed report, please do not hesitate to call me at (573) 526-6684.

Sincerely,

Melissa A. Schepeler
Senior Environmental Specialist

Enclosures



Our mission is to provide a world-class transportation experience that delights our customers and promotes a prosperous Missouri.

www.modot.org

Storm Water Annual Report – Small MS4 Permits

Attachment to MO 780-1846

The Missouri Department of Transportation (MoDOT) developed its Storm Water Management Plan (SWMP) as required by 10 CSR 20-6.200 during 2006. The Missouri Department of Natural Resources (MDNR) issued MoDOT its first Small MS4 General Permit (MO-R040063) on August 4, 2006, and was granted an extension in 2007 during MoDOT's finalization of its October 1, 2007, SWMP. MDNR issued MoDOT its second Small MS4 General Permit on August 1, 2008. MoDOT's General Permit is currently administratively extended until issuance of the new General Permit or MoDOT's site-specific TS4 permit, whichever is first.

Currently MoDOT's SWMP is seven years old, and we have accomplished several program goals targeting activities to help reduce storm water pollution. Our goal is to build knowledge to improve storm water runoff conditions each and every year. As circumstances change, new solutions may be necessary to better control storm water runoff. Our plan continues to be a foundation on which new and innovative ideas can be developed to protect the State's lakes, streams and waterways. The SWMP addresses six minimum control measures:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination (IDDE)
4. Construction Site Runoff Control
5. Post-Construction Site Runoff Control
6. Pollution Prevention/Good Housekeeping

The following outlines the implementation status of each control measure, the status of measurable goals, and a summary of activities we plan to undertake in the next reporting cycle for each of the measures. Following the narrative is a table that summarizes these goals and achievements.

Measure 1: Public Education and Outreach

BMPs: MoDOT will educate the public and MoDOT community on stormwater issues through events and use of media.

- **Stormwater webpage** - MoDOT will use outreach through its website and other media.
 - The Stormwater webpage had 406 unique visitors during this permit year.
<http://www.modot.org/stormwater/>
 - From this webpage:
 - ⇒ The stormwater concern form was viewed 311 unique times.
 - ⇒ The stormwater brochure was viewed 55 unique times.
 - ⇒ The stormwater snow removal fact sheet was viewed 15 unique times.
 - ⇒ The General Permit was viewed 39 unique times.
 - ⇒ The SWMP was viewed 51 unique times.

- **Stormwater email** – this email address is on the Stormwater brochure and on the webpage. It received 2 emails during the reporting timeframe. One was legitimately about stormwater, the other wanted information regarding our drainage at a particular location.
- **“Stormwater” form - December 2011.** The “Report a Stormwater Concern” form added to the internet site, allows the public to report via website any incidences of illegal dumping, illicit discharges, and construction activity runoff in MoDOT right of way. Forms are routed to each MoDOT District Community Relations contact to distribute to the proper district personnel.
 - ⇒ **Report a Stormwater Concern form** - There were 71 forms submitted between June 1, 2015, and June 1, 2016. Of those 71, 9 were applicable to IDDE measure. The remainder is mostly notifications of clogged culverts or water over the roadway.
- **Litter prevention.** Each year, MoDOT spends \$5-6 million on litter clean up. This is money (and time!) that could go to other activities. Our ultimate goal is to get people not to litter in the first place. The April 2016 No MOré Trash! Bash campaign was comprised of a total of 106 educational events throughout the state. A total of 50,416 bags of litter were collected as part of the 2016 campaign.
 - ⇒ Reported in *Connections*, a MoDOT employee publication. *Connections* is sent internally to employees (over 5,000) and also has approximately 600 external and retiree subscribers.
 - ⇒ Front page of News Tribune, Jefferson City, MO publication. Earth Day Lessons.
 - ⇒ Bash Trash in April with MDC and MoDOT Annual Trash Bash, email sent on 4/20/16.



Figure 1: Trash Bash email, 4/21/16.

Earth Day celebration

MoDOT staff from Maintenance Division and Design Division Environmental Section participated in the annual Earth Day celebration on the Capitol lawn April 22.

White pine seedlings were handed out to local school children. The kids were also asked to take the No MOré Trash anti-littering pledge. Design Division Environmental Specialist Stephanie Graham (left) and Senior Environmental Specialist Valerie Hentges (right) led kids in the clean streams bean bag toss game educating kids on the importance of keeping our water system clean of trash and debris.



Figure 2: Connections, 5/5/16.

- **Missouri State Fair 2015.** The stormwater bean bag toss was run all 7 days of the fair. Other activities included painting trash cans for No More Trash event and signing the litter pledge.



Figure 3: State Fair, 2015. Painting trash barrels.



Figure 4: State Fair, 2015. Bean Bag Toss

- **Earth Day celebration 2016.** The Environmental section in Design has a stormwater bean bag toss to educate the students about the impact to water from litter and other pollutants.
 - ⇒ Approximately 1,200 registered students, parents, and others signed the Litter Pledge promising not to litter.
 - ⇒ MoDOT distributed 2,500 white pine tree seedlings to event goers.
- **Stormwater brochure** – The stormwater brochure is an outreach and education component of our permit that describes stormwater, what makes it harmful, and what is an illicit discharge. It also points out what the public can do to reduce stormwater and what

MoDOT's role in stormwater is. The brochure is taken to public meetings and posted online for e-public meetings.

- Additionally, MoDOT has conducted general MS4 training in the St. Louis and Kansas City districts totaling 63 individuals from Construction, Design and Maintenance.

Measure 2: Public Involvement and Participation

BMPs: MoDOT will be responsive to the public and MoDOT community regarding stormwater issues through reports and provide opportunities for the public to contribute to the issues.

- **Hinkson Creek Collaborative Adaptive Management** - MoDOT is an on-going participant on the Action Committee. The action committee meets monthly.
- **Adopt-A-Highway program.** Volunteers pick up litter a minimum of four times a year. There are 5,101 volunteer groups who cover 6,502 miles of roadway.
- **Sponsor-A-Highway** program. Approximately 53 miles of roadway are sponsored.
- **“Trees for Tomorrow”** – 2014-2019. MoDOT committed to purchasing up to 250,000 seedlings each year, over a five-year period, and MDC distributes the trees to youth groups throughout the State. In 2016, 234,425 seedlings were given out.



Figure 5: MoDOT employees pick up trash.



Figure 6: Seedling giveaway at 2016 Earth Day.

- **Coordination Meeting with Springfield and Greene County.** MoDOT reached out to Springfield and Greene County to have a meeting to discuss ways to better coordinate within mutual MS4 areas.
- **4-State DOT meeting.** Kansas, Iowa, Nebraska and Missouri get together every couple of years to discuss experiences, structure and success stories. Included was a breakout session on stormwater compliance including construction and MS4 to compare and contrast ways of doing business.
- **General Conferences for Outreach:** IECA Great Rivers Chapter 2015 fall conference and expo, 2015 MWEA Conference.
- **“Report a Stormwater Concern”** - (See measure 1).
- **Bean Bag Toss –Is Clean Water Important to You?** Kids are asked to describe what pollutant is pictured and why it is a problem. The game was played by many individuals at Earth Day and State Fair events in 2015 and 2016.



Figure 7: MoDOT Stormwater bean bag game at Earth Day 2016.

Measure 3: Illicit Discharge Detection and Elimination

BMPs: MoDOT will continue to educate and work to prevent illicit discharges on the road system.

- MoDOT continues to implement its illicit discharge response plan developed in 2007. Although MoDOT cannot legally prevent illicit discharges from occurring, MoDOT works with the public in the identification of the discharges and refers the occurrences to the regulatory authority.
 - ⇒ In July 2007, MoDOT added a link on its website (www.modot.org/asp/repair.htm) for the public to report instances of illicit discharges and illegal dumping.
 - In December 2011, MoDOT added the storm water concern form. During this reporting period, MoDOT investigated a total of 71 instances of illicit discharges, stormwater concerns, and/or illegal dumping, a majority of which were received through the website links (see measure 1) and the another 16 were through contacts with our Hazardous Waste specialists, other internal employees, or other reports (MDNR/MSD/etc).
 - ⇒ EER Reports: Additionally, approximately 85 spills were also reported on MoDOT ROW, as reported to MDNR's Emergency Environmental Response System, including vehicular accidents. Vehicular accidents were included this reporting period because it is impossible to determine from the EER reports whether the spill reached a waterway. Cleanup was generally directed by MDNR, MoDOT, or Highway Patrol.
 - ⇒ Internally, MoDOT is working with the Bridge Division and Maintenance Division to come up with an inspection schedule that coincides with bridge inspections, annual mowing inspections, and frequent culvert and ditch inspections after rain events.
 - Permanent BMPs are located in TMS (Transportation Management System) and data is available for all MoDOT personnel to see. Data completed summer 2016.
 - ⇒ MoDOT uses 12 dead animal incinerators at 9 facilities to handle waste disposal of animal carcasses. See MCM 6.
- **Training** – MoDOT conducts various trainings yearly in the spring including Land Disturbance Training & Refresher, MS4 and MoDOT, and Regulatory Compliance for Construction.
 - ⇒ MoDOT is currently working with Maintenance Division Management to develop a protocol for initial training, refresher training, etc.

- ⇒ MoDOT has developed an online training for IDDE and refresher training that was rolled out in December 2015.
 - A total of 671 employees were trained in the IDDE online training.
 - A total of 498 employees were trained in the IDDE refresher training.
- ⇒ MoDOT's MS4 training class March 29, 2016 in Kansas City District and April 27, 2016 in St. Louis District.
 - A total of 63 were trained in Kansas City and St. Louis.

Measure 4: Construction Site Runoff Control

BMPs: MoDOT will train and audit on erosion and sediment control in compliance with the NPDES land disturbance permit.

- **Land Disturbance Permit:** MDNR re-issued MoDOT its general Land Disturbance permit (MO-R100007) on May 31, 2012. The Land Disturbance permit regulates storm water runoff from construction activities with one acre or more of disturbance. MoDOT regularly updates its Storm Water Pollution Prevention Plan (SWPPP), most recently in August 2014, that describes best management practices (BMPs) and procedures to reduce storm water pollution at construction sites to comply with conditions of the Land Disturbance permit and Missouri Water Quality Standards. The permit and associated SWPPP is implemented on all applicable MoDOT projects as MoDOT develops site-specific erosion and sediment control plans describing the locations of outfalls and erosion and sediment control BMPs for each project. MoDOT continues to provide MDNR with a quarterly list summarizing all active projects permitted under the Land Disturbance permit.
- MoDOT is currently operating under a consent decree with the Environmental Protection Agency. The consent decree took effect July 2015.
- **SWPPP Training:** MoDOT continues to conduct annual training of its design, construction and maintenance employees and contractors and consultants to ensure implementation of the SWPPP and compliance with the Land Disturbance permit. MoDOT conducts training sessions as requested and needed. In the reporting period, a total of 1,121 MoDOT employees were trained in construction erosion and sediment control techniques and practices and the consent decree. Additionally, 478 individuals from contracting or consulting firms, FHWA and some city and county officials attended MoDOT's training.
 - ⇒ MoDOT has training material (2014 Land Disturbance Refresher Course as well as the 2012 Land Disturbance Full Course) posted in three locations for ease of use to employees and contractor/consultants. The 2014 Land Disturbance Full Course will be available in these same locations as well.
 - EPG: 806.8 Storm Water Pollution Prevention Plan (SWPPP) - In the box on the right, under "Additional Information".
 - Construction and Materials (CM) Intranet, under "Erosion Control".

- MoDOT Internet:
http://www.modot.org/business/contractor_resources/LandDisturbanceItems.htm - for MoDOT land disturbance items as a resource for contractors and consultants.
- **Construction Site Compliance:** In addition to site inspections conducted weekly and following significant rainfall events, MoDOT continues to conduct quality control audits of each project covered by the Land Disturbance permit. These audits are generally conducted at a minimum once a year per construction site to ensure consistent inspections and implementation of the SWPPP. MoDOT conducted 3,218 routine inspections on approximately 58 projects that were subject to Land Disturbance permit requirements. Contractor companies working on each MoDOT construction site were also assigned a performance rating based on their effectiveness to implement the provisions of the SWPPP.
- MoDOT personnel attend the ASP Clean and Green Conference annually.
- MoDOT personnel attended the IECA Great River Chapter Conference in Kansas City in October 2015.

Measure 5: Post-Construction Site Runoff

BMPs: MoDOT will consider post-construction BMPs in new and redevelopment projects.

MoDOT continues to create a program to incorporate post-construction runoff BMPs in projects and a system to track and inspect them. MoDOT will continue to consider the applicability of post-construction BMPs for projects that meet the definition of new or redevelopment in the urban areas. In 2015 MoDOT began development of a Stormwater App. Stormwater App went live January 2016. This App covers BMP inventory and inspection and maps the BMPs in a system called TMS (Traffic Management System) that allows any MoDOT employee to know the location and information about each of those BMPs.

- **Post-Construction BMPs –**
 - ⇒ MoDOT continually tracks permanent post-construction BMPs. In years 2015 and 2016 MoDOT has logged 31 BMPs in 12 projects to be constructed. At this time 3 of those jobs (12 BMPs) are still under construction.
- **Request for Environmental Services (RES) storm water review** – (implemented in the 2013-2014 cycle) This is an internal process that allows the Environmental and Historic Preservation Section to review Statewide Transportation Improvement Program (STIP) projects at each major milestone (initial, preliminary plans, right-of-way and final design). Each expertise area (i.e. noise, wetlands, T&E, etc.) fills out concerns and issues with the project. Stormwater/Water Quality was added as an expertise to more formally recognize review for TMDL, 303d listed waters, incorporation of permanent post-construction BMPs in new and redevelopment projects and any other stormwater issues.

- ⇒ **January 1, 2014 rolled out new version of RES** – Stormwater subcategory added to review the potential of adding permanent BMPs to projects that qualify per MoDOT's definition of redevelopment and new development.
 - Between June 1, 2015, and June 1, 2016, MoDOT has reviewed 831 RES's.
 - 256 of those were in regulated MS4 areas and required consideration of permanent BMPs.
 - 1 of those were new development
 - 8 of those were redevelopment
 - 247 of those were considered maintenance
- **Engineering Policy Guide** – MoDOT updated the EPG to include the design and construction process of the stormwater program elements in March 2015.
 - ⇒ **Updated the 771.2 Bridge Cleaning and Flushing** section in January 2016 to reflect the requirement to sweep solids before flushing the bridge with water.
 - ⇒ **Updated the 127.25.8.3.2 Attachment by others to MoDOT's Drainage system** section in November 2015.
- **Training** – MS4 and post-construction site runoff control training of MoDOT employees was conducted. The training focused half on the requirements of the MS4 permit and half on MCM 5.
 - ⇒ MoDOT's MS4 training class March 29, 2016 in Kansas City District and April 27, 2016 in St. Louis District.
 - A total of 34 were trained in Kansas City District.
 - A total of 29 were trained in St. Louis District.
- **MS4 Coordination** – met with City of Springfield and Greene County to coordinate MS4 activities and proactively address problem areas.

Measure 6: Pollution Prevention and Good Housekeeping

BMPs: MoDOT will continue to train MoDOT community regularly.

- **Maintenance.** MoDOT continues to regularly conduct environmental compliance inspections of all of its maintenance facilities, addressing deficiencies when identified.
 - ⇒ In the reporting year, 684 maintenance employees were trained on spill drills, 788 maintenance employees took a refresher on SPCC compliance and 543 employees were trained in IDDE and 477 took the refresher IDDE class.
 - ⇒ Other MoDOT employees from other MoDOT divisions took these courses as well: 128 in IDDE class, 21 took the IDDE Refresher, 86 took the SPCC Spill Drill, and 105 took the SPCC refresher.



Figure 8: MoDOT spill drill October 2015.

⇒ **Maintenance Operations:** Under direction of the ESC, MoDOT will continue to evaluate existing maintenance operation policies that have potential to impact water quality. The following recently implemented and proposed changes in MoDOT's winter operations have had, or may have, a positive impact on water quality:

- **Salt Usage:** MoDOT updated its Winter Operations Manual in September 2010 with significant changes to the snow and ice removal methods, primarily in order to reduce cost. MoDOT's implementation of these revised methods significantly reduces the amount of salt usage from 200 lbs–400 lbs per lane mile down to approximately 100 lbs per lane mile. This significant reduction in salt use on MoDOT roadways will reduce the amount of storm water runoff containing chlorides. MoDOT continues to expand the use of liquid anti-icing and pre-wetting salt to help further reduce the amount of salt used.
- **Road to Tomorrow Initiative:** Solar Roadways Pilot Project. Solar panels will be installed on sidewalks to test their potential for generating heat to melt snow and for generation of electricity for other purposes.

Containing the Brine at Williamsburg

A new brine containment facility is being built at Williamsburg that will allow us to store up to 30,000 gallons of salt brine/geo-melt at this facility. This will help minimize our salt usage, as well as help get roads back to a near-normal status quicker. It should also help minimize the amount of time plows need to be on the pavement.



Figure 9: New brine containment facility, 9/10/15.

- MoDOT uses the **Road Weather Information System (RWIS)** which enables MoDOT to more precisely apply salt/brine/sand on the highway while optimizing the use of equipment and staff. The RWIS consists of 35 meteorological stations strategically located alongside highways, mostly interstates. The system allows MoDOT to anticipate freezing and snowy conditions that can pose hazardous driving conditions and help reduce the amount of salt and sand applied to its roadways. By reducing the amount of de-icing material on the roadway, MoDOT reduces the potential impact to water quality.
- **Beet Juice Usage:** MoDOT routinely uses salt treated with beet juice and salt brine to increase the effectiveness when compared to salt alone. Beet juice was listed as a Best Practice in the 2010 Winter Operations Manual and an average of over 650,000 gallons is used each year.
- **Dead Animal Incinerators:** Since 2008 MoDOT has been using non-commercial dead animal incinerators to dispose of animal carcasses. There are 12 units at 9 MoDOT facilities; none have been added in this report cycle. There have been 584 deer and 40 other smaller animals reported as being incinerated at all locations in calendar year 2015.

- **MoDOT's Environmental Steering Committee (ESC)**, formed in 2007, continues to meet quarterly. The ESC discusses storm water issues as they come up for the department. The ESC has additionally provided guidance on issues concerning compliance with the consent decree with EPA and DOJ action regarding NOVs, a weed control performance based contract to reduce chemical use and costs, and wastewater facility permits and compliance. Ongoing inspections of maintenance facilities found that not only storm water control has improved but all aspects of environmental compliance over the last several inspection cycles.
- **Facility Runoff Control Plans:** Developed in the fall of 2016 to be implemented in the spring of 2017 at the 41 facilities in the MS4 coverage area.
- **Training:**
 - ⇒ **Winter Operations Training – November 4, 2015.** This training focuses on a refresher for personnel that operate snow plows and other winter equipment. Any new policies or guidance on salt, sand or brine applications are reviewed.
 - ⇒ **SPCC Training**
 - A total of 770 trained in Spill Drill training.
 - A total of 893 trained in Spill Drill refresher training.
 - ⇒ The **online IDDE training** was developed and rolled out to personnel fall 2015.
 - A total of 671 employees were trained in the IDDE online training.
 - A total of 498 employees were trained in the IDDE refresher training.
 - ⇒ **IDDE plus MCM 6** training has been developed and will be rolled out in the fall of 2016.
 - Training in fall of 2016 for buildings within the TS4 area.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

STORM WATER ANNUAL REPORT – SMALL MS4 PERMITS
(MUNICIPAL SEPARATE STORM SEWER SYSTEMS)

Return completed form to:
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176

This form may be reproduced. Additional copies may be printed at www.dnr.mo.gov/forms/index.html.
Each section **must** be completed. Please print or type.

A. PERMITTEE INFORMATION

1. PERMITTEE (AGENCY NAME)

MoDOT

CHECK BOX IF THIS IS A NEW NAME

2. NAME OF CONTACT PERSON

Melissa Scheperle

3. MAILING ADDRESS

601 West Main

CHECK BOX IF THIS IS A NEW ADDRESS

4. CITY, STATE AND ZIP CODE

Jefferson City, MO 65101

CHECK BOX IF THIS IS A NEW CITY, STATE, ZIP

5. FACILITY TELEPHONE NUMBER WITH AREA CODE

573-526-6684

CHECK BOX IF THIS IS A NEW NUMBER

6. PERMIT NUMBER

MO-R040063

7. HAVE ANY AREAS BEEN ADDED OR REMOVED FROM THE MS4 DUE TO ANNEXATION OR OTHER LEGAL MEANS SINCE THE MOST RECENT PERMIT APPLICATION WAS SUBMITTED? IF YES, INCLUDE UPDATED MAP.

Yes No

8. WHAT IS THE CURRENT ESTIMATED POPULATION OF YOUR MS4 THIS REPORTING PERIOD? NA

9. IF COUNTY MS4, WHAT IS THE CURRENT POPULATION OF YOUR MS4 WITHIN THE URBANIZED AREA? NA

B. REPORTING PERIOD

(CHECK ONE) REPORT IS DUE BY JULY 28 OF EACH YEAR

Jan. 01, 2008 to June 12, 2009
 June 13, 2009 to June 12, 2010
 June 13, 2010 to June 12, 2011
 June 13, 2011 to June 12, 2012 or alternative/agreed upon reporting period: 2015 - 2016
 June 13, 2012 to June 12, 2013
 June 13, 2013 to June 12, 2014

C. PROGRAM AREAS (ATTACHMENT)

As an attachment to this form, address each of the following items for **each** of the six program areas (public education, public participation/involvement, illicit discharge detection and elimination, construction, post-construction and good housekeeping for municipal operations.) The status of each program area must be addressed, even if the program area was completed and fully implemented in a previous reporting year. It is important to report on activity and task commitments identified in the Storm Water Management Program Plan, or SWMP, and provide an explanation for any changes to those commitments.

If another entity is a co-permittee, the annual report information under sections C and D of this form must also be provided for each such entity.

(Depending on the size of the municipality and the complexity of the programs, the attachments for this section will likely contain one to five pages per program area.)

1. Implementation status.
 - a. General summary
 - b. SWMP elements changed or refined since previous report or permit application. Include a summary of any changes made in accordance with Section 4.4 of the permit that have already been submitted to the Department, and any additions made in accordance with Section 4.4 of the permit.
 - c. Status of Measurable Goals
 - d. Provide:
 1. The completion date for any measurable goals completed during the reporting period.
 2. An explanation for any measurable goals scheduled for completion during the reporting period that were not completed. (Any modified goals/deadline should be listed in item 5, below.)
2. Overall compliance with permit conditions and SWMP.
 - a. Assessment of the appropriateness of the identified Best Management Practices, also known as BMPs. Factors to consider in determining appropriateness include, but are not limited to, effectiveness for local population, pollution sources, receiving water concerns and integration with local management procedures.

b. Progress to achieve the statutory goal of reducing the discharge of pollutants to the maximum extent practicable. Include a general discussion on your assessment of the overall program effectiveness at protecting water quality. See Small MS4 Annual Report Addendum Water Quality Program Assessment for recommendations on completing this section. The form is available online at www.dnr.mo.gov/forms/780-2049.

3. Results of information collected and analyzed, if any, during the reporting period, including any monitoring data used to assess the success of the program at reducing the discharge of pollutants to the maximum extent practicable. Discharge monitoring is not a requirement under the general permit, unless otherwise directed by the Department (e.g. TMDL monitoring). However, if you did collect any monitoring data for storm water discharges within your jurisdiction, or if any program element included data collection of some sort, submit a short summary of the information and any analysis completed. Examples of data sources include survey or polling results, miles of riverbank cleaned up, number of hits on a Web site before and after a public education campaign, etc. (Data recorded under Item 1.c, Measurable Goals, does not need to be repeated here.)

4. Brief summary of storm water activities you plan to undertake during the next reporting cycle (including an implementation schedule). Provide a short summary based on your existing Missouri State Operating Permit Storm Water Management Program implementation schedule. If any changes are planned from the original descriptions provided in the SWMP or previous reports, they should be summarized in item 5.

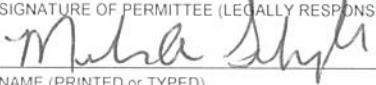
5. Proposed changes to the program area and documented SWMP.

- Changes to BMPs
- Changes to Measurable Goals

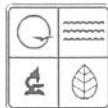
Provide a summary of proposed changes or additions to information previously submitted in reports or the permit application. Significant changes that involve replacing or deleting an ineffective or unfeasible BMP may require program review as outlined in Section 4.4 of the permit.

D. CERTIFICATION

I certify under penalty of law this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PERMITTEE (LEGALLY RESPONSIBLE PERSON)	DATE SIGNED
	7/25/16
NAME (PRINTED or TYPED)	TITLE
Melissa Scheperle	Sr. Environmental Specialist

MO 780-1846 (07-09)



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

**STORM WATER ANNUAL REPORT – SMALL MS4 PERMITS ADDENDUM - WATER
QUALITY PROGRAM ASSESSMENT (MUNICIPAL SEPARATE STORM SEWER SYSTEMS)**

INSTRUCTIONS

You are not required to complete this ADDENDUM. However, the Department of Natural Resources strongly recommends this form as a way to satisfy Section 2b of the Small MS4 Annual Report, or at a minimum thoroughly address the items included in this addendum.

The purpose of this report is to contribute information to an evaluation of the National Pollutant Discharge Elimination System, or NPDES, small municipal separate storm sewer system (MS4) permit program. Consistent with Missouri storm water regulations 10 CSR 20-6.200 and federal regulations 40 CFR §9, 122, 123, 124 the Department is evaluating the status of your program. A "no" answer to a question does not necessarily mean noncompliance with your permit or with the state and federal regulations. In order to establish the range of variability in the program, it is necessary to ask questions along a fairly broad performance continuum. The Department of Natural Resources may use some of this information as one component of compliance evaluation.

A. WATER QUALITY PRIORITIES

1. Does your MS4 discharge to waters listed as impaired on Missouri's most recently approved 303(d) list or to waters for which a TMDL has been approved by EPA and is currently in effect? For more information visit www.dnr.mo.gov/env/wpp/waterquality/303d.htm.

Yes No

2. If yes, identify each impaired water, the impairment(s), whether a TMDL has been approved by EPA for each, and whether the TMDL identifies your MS4 as a source of the impairment.

Impaired Water	Impairment	Approved TMDL	MS4 Assigned to WLA
various statewide		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

3. What specific sources of these pollutants of concern are you targeting?

4. Do you have discharges to any Wild and Scenic Riverways, drainages thereto, or Outstanding State Resource Waters? (a list of these waters can be found in 10 CSR 20-7.031 tables D and E).

Yes No

5. Are you implementing additional specific provisions to ensure their continued integrity?

Yes No

B. PUBLIC EDUCATION AND PUBLIC PARTICIPATION

1. Is your public education program targeting specific pollutants and sources of those pollutants?

Yes No

2. If yes, which of the following pollutants did your public education program target this reporting period?

<input checked="" type="checkbox"/> Suspended Solids	<input type="checkbox"/> Pesticides	<input type="checkbox"/> Temperature
<input type="checkbox"/> Nutrients/Fertilizers	<input type="checkbox"/> Oils and Greases	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Chlorides	<input type="checkbox"/> Polycyclic Aromatic Hydrocarbons (PAHs)	

3. What sources of pollution did you target for these pollutants (for education) this reporting period? Construction and Maintenance Operations

4. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

NA

5. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your storm water program?

Yes No

C. CONSTRUCTION

1. Do you have an ordinance or adopted policies stipulating

a. Erosion and sediment control requirements?

Yes No

b. Other construction waste control requirements?

Yes No

c. Requirement to submit construction plans for review?

Yes No

d. MS4 inspection authority?

Yes No

e. MS4 enforcement authority?

Yes No

C. CONSTRUCTION (CONTINUED)

2. Do you have written procedures for:																															
a. Reviewing construction plans that include erosion and sediment control?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																													
b. Performing erosion and sediment control inspections?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																													
c. Responding to erosion and sediment control violations?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																													
3. Identify the number of active construction sites \geq 1 acre in operation in your jurisdiction at any time during the reporting period.	Non-municipal	Municipal	58 projects statewide																												
4. How many of the sites identified in # 3 did you inspect this reporting period?	Non-municipal	Municipal	all																												
5. Describe, on average, the frequency with which your program conducts construction site inspections.	Non-municipal	Municipal	Per our LD permit																												
6. Do you prioritize certain construction sites for more frequent inspections? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, based on what criteria?																														
7. Do you require development of a storm water pollution prevention plan, or SWPPP, for construction activities, and ensure standards comply with NPDES Phase II requirements?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																													
8. Do your municipal projects comply with state and local requirements for erosion and sediment control?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																													
9. Identify which of the following types of enforcement actions you used during the reporting period for construction activities; indicate the number of actions or note those for which you do not have authority:	<table border="1"> <tr> <td><input type="checkbox"/> Yes</td> <td>Notice of Violation</td> <td># _____</td> <td>No Authority <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td>Administrative Fines</td> <td># _____</td> <td>No Authority <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td>Stop Work Orders</td> <td># _____</td> <td>No Authority <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td>Civil Penalties</td> <td># _____</td> <td>No Authority <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td>Criminal Actions</td> <td># _____</td> <td>No Authority <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td>Administrative Orders</td> <td># _____</td> <td>No Authority <input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> Yes</td> <td>Other _____</td> <td># _____</td> <td></td> </tr> </table>			<input type="checkbox"/> Yes	Notice of Violation	# _____	No Authority <input type="checkbox"/>	<input type="checkbox"/> Yes	Administrative Fines	# _____	No Authority <input type="checkbox"/>	<input type="checkbox"/> Yes	Stop Work Orders	# _____	No Authority <input type="checkbox"/>	<input type="checkbox"/> Yes	Civil Penalties	# _____	No Authority <input type="checkbox"/>	<input type="checkbox"/> Yes	Criminal Actions	# _____	No Authority <input type="checkbox"/>	<input type="checkbox"/> Yes	Administrative Orders	# _____	No Authority <input type="checkbox"/>	<input type="checkbox"/> Yes	Other _____	# _____	
<input type="checkbox"/> Yes	Notice of Violation	# _____	No Authority <input type="checkbox"/>																												
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<input type="checkbox"/> Yes	Administrative Orders	# _____	No Authority <input type="checkbox"/>																												
<input type="checkbox"/> Yes	Other _____	# _____																													
10. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results and enforcement actions of active construction sites in your jurisdiction?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																														
11. What are the three most common types of violations documented during this reporting period?	<p>a. Failure to maintain and implement BMPs.</p> <p>b.</p> <p>c.</p>																														
12. How often do municipal employees receive training about the construction program?																															
D. ILLICIT DISCHARGE ELIMINATION																															
1. Have you completed a map of all outfalls and receiving waters of your storm sewer system?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																														
2. Have you completed a map of all storm drain pipes of your storm sewer system?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																														
3. Identify the number of outfalls in your storm sewer system. unknown																															
4. Do you have documented procedures, including frequency, for screening outfalls and open conveyances?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																														
5. Of the outfalls identified in # 3, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? NA																															
6. What is your frequency for screening outfalls for illicit discharges?	<p>a. Describe any variation based on size/type. NA</p>																														
7. Describe your approach to screening open conveyances for illicit discharges. Rely on reports from maintenance personnel, public and bridge inspection																															
8. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																														
9. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action or recover costs for addressing illicit discharges?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																														

D. ILLICIT DISCHARGE ELIMINATION (CONTINUED)

10. During this reporting period, how many illicit discharges or illegal connections have you discovered? **71**
11. Of those illicit discharges and illegal connections discovered or reported, how many have been eliminated? **all**
12. How often do municipal employees receive training about the illicit discharge program? **annually**

E. STORM WATER MANAGEMENT FOR MUNICIPAL OPERATIONS

1. Have storm water pollution prevention plans (or an equivalent plan) been developed for:
 - a. All public parks, ball fields, other recreational facilities and other open spaces.
 Yes No **NA**
 - b. All municipal construction activities, including those disturbing less than 1 acre.
 Yes No
 - c. All municipal turf grass/landscape management activities.
 Yes No
 - d. All municipal vehicle fueling, operation and maintenance activities.
 Yes No
 - e. All public works, parks and other municipal maintenance yards.
 Yes No
 - f. All municipal waste handling and disposal areas.
 Yes No
 - g. Other municipal operations.
 Yes No

2. Are storm water inspections conducted at these facilities?

Yes No

3. If Yes, at what frequency are inspections conducted? **annually**

4. List activities for which operating procedures or management practices specific to storm water management have been developed? (such as road repairs, catch basin cleaning, landscape management, etc.)
 Yes No **various**

5. Do you prioritize certain municipal activities or facilities for more frequent inspections?

Yes No

- a. If Yes, at what frequency are inspections conducted? **As needed.**

6. On average, how frequently are catch basins and other inline treatment systems inspected? **NA**

7. Do all municipal employees overseeing planning and implementation of storm water-related activities receive comprehensive training about storm water management?
 Yes No

8. If yes, do you also provide regular updates and refreshers?

Yes No

- a. If so, how frequently or under what circumstances? **Every 2 years.**

9. How often do other municipal employees and contractors performing duties that can impact storm water receive training about storm water management?

F. NEW AND REDEVELOPMENT (POST-CONSTRUCTION) STORM WATER MEASURES

1. Do you have ordinances or other mechanisms to require:

- a. Pre-site design meetings with developers?
 Yes No
 - b. Site plan reviews for storm water quality of all new and re-development projects of an acre or more?
 Yes No
 - c. Reasonable mimicking of pre-construction storm water runoff quality in all new development projects of an acre or more?
 Yes No
 - d. An incremental improvement of existing storm water runoff quality in redevelopment projects of an acre or more?
 Yes No
 - e. Long-term operation and maintenance of storm water management controls?
 Yes No
 - f. Retrofitting to incorporate long-term storm water management controls?
 Yes No

2. If you have retrofit requirements, what are the circumstances or criteria? **NA**

3. What are your criteria for determining which new/re-development storm water plans you will review for water quality? (such as all projects, projects disturbing greater than one acre, etc.) **All reviewed during NEPA review.**

4. Do your ordinance(s) or other regulatory mechanism(s) allow for:

- a. Non-structural site design options to allow for optimal water quality management in long-term storm water runoff? (such as minimized/disconnected impervious surfaces, cluster housing in exchange for green space, resource protection boundaries, etc.)
 Yes No
 - b. Structural contemporary, dispersed micro-infiltration/filtration practices such as grassed swales, sand filters, neighborhood roundabouts with rain gardens, etc.?
 Yes No

F. NEW AND REDEVELOPMENT (POST-CONSTRUCTION) STORM WATER MEASURES (CONTINUED)

5.	Do you require water quality design standards or performance standards, either directly or by reference, be met for new development and re-development?	
	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
6.	Do these design standards/performance measures require pre-construction runoff conditions in new development be met for:	
a.	Flow volumes. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
b.	Peak discharge rates. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
c.	Discharge frequency. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
d.	Flow duration. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
e.	Water quality. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
7.	Please provide the Web address/reference where all post-construction storm water management standards are located.	
8.	Do your zoning bylaws, ordinances or other regulatory processes allow or enable:	
a.	Flexible site design criteria such as smaller lot sizes, reduced setbacks and narrow streets in exchange for functional green space and optimal water quality management in storm water runoff. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
b.	Established regulatory controls over tree clearance and removal of mature trees or forest stands? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
c.	Green space residential developments (cluster development or conservation subdivision design)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
d.	The location of bioretention areas, rain gardens, filters strips, swales and constructed wetlands in required setback areas? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
e.	Construction of low impact development, or LID, storm water management techniques (bioretention, swales, filter strips) on land held in common (when appropriate)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
f.	Use of permeable paving for parking stalls and spillover parking areas? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
g.	Limited clearing within the right-of-way to the minimum necessary to construct roadway, drainage, sidewalk and utilities, and to maintain site lines? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9.	Does your review and approval process include using a water quality checklist?	
	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
10.	If yes to # 9, please check all of the following checklist items that apply:	
a.	Existing and proposed mapping and plans (recommended scale of 1" = 50') which illustrate:	
1.	Existing and proposed topography (minimum of 2-foot contours recommended). <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2.	Compatibility with watershed plans, land use plans, comprehensive plans, (contemporary street standards) etc. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
3.	Perennial and intermittent streams. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
4.	Mapping of predominant soils from USDA soil surveys as well as location of any site-specific borehole investigations that may have been performed. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5.	Boundaries of existing predominant vegetation and proposed limits of clearing. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
6.	Location and boundaries of resource protection areas such as wetlands, lakes, ponds and other setbacks (e.g., stream buffers, drinking water well setbacks, septic setbacks). <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7.	Grading plan with location of existing and proposed roads, buildings and other structures. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
8.	Location of existing and proposed utilities (e.g., water, sewer, gas, electric) and easements. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
9.	Location of existing and proposed conveyance systems such as grass channels, swales and storm drains. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
10.	Flow paths. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
11.	Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainages. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
12.	Location and dimensions of proposed channel modifications, such as bridge or culvert crossings. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
13.	Location, size, maintenance access and limits of disturbance of proposed structural storm water management practices <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

F. NEW AND REDEVELOPMENT (POST-CONSTRUCTION) STORM WATER MEASURES (CONTINUED)

14. Location of proposed community recreation/green space areas.

Yes No

15. Functional landscape plan.

Yes No

b. Narrative and supporting calculations describing:

1. Representative low-impact development techniques (with supporting evidence that technique is compatible with site characteristics) such as on-lot bioretention, tree clearing minimization, minimizing directly connected impervious surfaces, open section roads (also called roadside swales), etc.

Yes No

2. Zoning, acreage, types and amounts of land uses. (e.g., parking spaces, density, green areas, building footprint areas)

Yes No

3. Traffic analysis estimating average daily trips for street network and parking requirements.

Yes No

4. Site impervious area (including effective disconnections).

Yes No

5. Reforestation and/or resource conservation protection measures.

Yes No

6. Comparison of proposed development data with allowable density, land use, etc.

Yes No

7. Development phasing or implementation sequence.

Yes No

8. Other?

11. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 9

12. How many of the plans identified in # 11 were approved? unknown at this time

13. How many privately owned permanent storm water management practices/facilities were inspected during the reporting period? ○

14. How many of the practices/facilities identified in # 13 were found to have inadequate maintenance? NA

15. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections? 7 calendar days

16. Do you have authority to take enforcement action for failure to properly operate or maintain storm water management practices/facilities? Yes No

17. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate or maintain storm water management practices/facilities? NA

18. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? Yes No

19. Do all municipal departments or staff (as relevant) have access to this tracking system? Yes No

20. How often do municipal employees receive training about the post-construction program? Every 2 years

G. PROGRAM RESOURCES

1. What was the annual expenditure to implement MS4 NPDES permit requirements this reporting period? NA

2. What is next year's budget for implementing the requirements of your MS4 NPDES permit and SWMP? NA

3. This year what is your source(s) of funding for the storm water program and annual revenue (amount or percentage) derived from each?

Source:	Amount \$:	OR %:
Source:	Amount \$:	OR %:
Source:	Amount \$:	OR %:

4. How many full time equivalent employees does your municipality devote to the storm water program (specifically for implementing the storm water program versus municipal employees with other primary responsibilities)? 2

5. Do you share program implementation responsibilities with any other entities?

Yes No

Entity:	Activity/Task/Responsibility:	Your Oversight/Accountability Mechanism:
Entity:	Activity/Task/Responsibility:	Your Oversight/Accountability Mechanism:
Entity:	Activity/Task/Responsibility:	Your Oversight/Accountability Mechanism:

H. EVALUATING AND MEASURING PROGRESS

1. What indicators do you use to evaluate the overall effectiveness of your storm water management program? How long have you been tracking them and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as in-stream macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
Example: E. coli	2003	Weekly April–September	20
NA			

2. What environmental quality trends have you documented over the duration of your storm water program? Reports or summaries can be attached electronically, or provide the Web address where they are located.

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